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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,179

08/21/2006

Guillermo C. Bazan

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EXAMINER

WALTERS JR, ROBERT S

ART UNIT

PAPER NUMBER

1717

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10/14/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,179	<b>Applicant(s)</b> BAZAN ET AL.	
	<b>Examiner</b> ROBERT S. WALTERS JR	<b>Art Unit</b> 1717	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5) ☒ Claim(s) 1-20 is/are pending in the application.
- 5a) Of the above claim(s) 10 and 13-20 is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1-9, 11 and 12 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Status of Application***

Claims 1-20 are pending. Claims 10 and 13-20 are withdrawn. Claims 1-9, 11 and 12 are presented for examination.

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/15/2011 has been entered.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-9, 11 and 12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Response to Amendment***

The amendment filed on 7/15/2011 under 37 CFR 1.131 is sufficient to overcome the Huang reference.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 2, 6, 7, 11 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Sirringhaus et al. (U.S. PGPUB No. 2003/0059975).

Regarding claims 1, 2, 6, 7, 11 and 12, Sirringhaus teaches a method of forming adjacent layers of conjugated polymer on a substrate comprising:

providing a substrate not soluble in water (0105-0106);

providing an aqueous solution of a first cationic conjugated polymer comprising pendant polar groups as solubilizing functionalities linked to the conjugated polymer, PEDOT:PSS (0105, note that the PEDOT portion is conjugated and carries positive charges and that PEDOT:PSS has sulfonic acid groups, which are polar and act as solubilizing groups linked to the conjugated PEDOT through electrostatic interactions of the two polymers);

providing a second solution comprising a second conjugated polymer, F8T2, in a different solvent that the PEDOT:PSS is insoluble in (0106);

depositing a first layer of PEDOT:PSS from the aqueous solution onto a rigid glass substrate by inkjet printing and then removing the solvent by evaporation (0106);

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then depositing a layer of the second solution onto the first layer and removing the solvent.

Sirringhaus additionally teaches that the substrate may be flexible (0184) and that the final products can be light emitting diode displays (0195). Sirringhaus teaches all the critical limitations of claims 1, 2, 6, 7, 11 and 12, therefore Sirringhaus anticipates the claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sirringhaus in view of Hsu (U.S. PGPUB No. 2003/0222250).

Regarding claim 3, Sirringhaus teaches all the limitations of claim 1, but fails to teach the inclusion of a detergent. However, Hsu teaches a method of preparing light-emitting diodes (abstract) by preparing a mixture comprising an electrically conducting polymer and a surfactant (abstract, note that this is equivalent to a detergent). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sirringhaus' method by including a detergent in the solution. One would have been motivated to make this modification as Hsu teaches that the inclusion of a surfactant facilitates coating of the polymer, improves device performance, and facilitates the use of flexible substrates (0011).

3. Claims 4, 5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirringhaus in view of Yu et al. (U.S. PGPUB No. 2004/0094768).

Regarding claims 4, 5, 8 and 9, Sirringhaus teaches all the limitations of claims 1 and 6, but fails to explicitly teach applying the first solution by spin-casting and further fails to teach the substrate being a film. However, Yu teaches a method for making PLED's (abstract and 0059) by applying polymers, such as PEDOT doped with PSS (0058), by drop-casting, spin-casting or ink jet printing (0058) to substrates that can be electrodes, flexible, rigid, or films

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(0054). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sirringhaus' method by applying their polymer materials by spin-casting. One would have been motivated to make this modification as one having ordinary skill in the art at the time of the invention could have substituted spin-casting for ink jet printing with a reasonable expectation of success (particularly given that Yu actually teaches spin-casting as an alternative method in a group that includes ink jet printing for depositing the same polymer utilized in Sirringhaus' process), and the predictable result of providing a PEDOT:PSS coated substrate. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sirringhaus' method by substituting a film substrate for Sirringhaus' substrates. One would have been motivated to make this modification as one having ordinary skill in the art at the time of the invention could have substituted a film for Sirringhaus' substrates with a reasonable expectation of success (particularly given that Yu actually teaches films as alternative substrates in a group that includes rigid and flexible substrates for application of the same polymer utilized in Sirringhaus' process), and the predictable result of providing a PEDOT:PSS coated substrate.

### ***Conclusion***

Claims 1-20 are pending.

Claims 10 and 13-20 are withdrawn.

Claims 1-9, 11 and 12 are rejected.

No claim is allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT S. WALTERS JR whose telephone number is (571)270-5351. The examiner can normally be reached on Monday-Thursday, 9:00am to 7:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571)272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROBERT S WALTERS JR/  
October 10, 2011  
Examiner, Art Unit 1717